

## **11. NATURAL RESOURCES**

### **INTRODUCTION**

The natural resources element of the CDP is included pursuant to the Georgia Planning Act, Georgia Minimum Local Planning Standards, and the Department of Natural Resources' Rules for Environmental Planning Criteria (O.C.G.A. 50-8-7 and 12-2-8) and includes 1) an inventory of the City's natural and environmentally sensitive resources; 2) issues, problems, and opportunities associated with those resources; and 3) goals, policies, and strategies for their appropriate use, preservation, and protection that are consistent with those established for other plan elements. The Statewide goal for natural resources is to conserve and protect the environmental and natural resources of Georgia's communities, regions, and the State.

The natural environment places certain opportunities and constraints on the way land is utilized. For instance, soil characteristics, topography, and the frequency of flooding are just a few of the factors that affect where development can safely and feasibly be accommodated. Other areas such as wetlands, forest areas and sensitive plant and animal habitats are also vulnerable to the impacts of development. The City's vision is to balance growth and economic development with protection of the natural environment.

### **INVENTORY AND ASSESSMENT**

#### **CURRENT CONDITIONS**

All of Atlanta is located within the Atlanta Plateau, and is part of the greater Georgia Piedmont Province of the Southern Piedmont Region of the United States. One of the most striking features of Atlanta is the valley of the Chattahoochee River, which runs along its northwestern boundary. The valley ranges in depth from 150 to 400 feet and from two to five miles in width from rim to rim.

#### **TOPOGRAPHY**

Rolling to hilly and broad, smooth uplands characterize the general surface features of the City. The largest areas, with slopes of 15 percent or greater, are located in the north, southwest, and southeast quadrants of the City. Elevations in Atlanta range from 960 to 1,050 feet above sea level.

#### **GEOLOGY**

Schist, biotite, gneiss, and other metamorphic rock underlie the majority of the Piedmont Plateau. Augen gneiss, hornblende gneiss, granite intrusions and other igneous rocks underlie the remainder. These rock formations have weathered thousands of years, interacting with various biological processes, to form the soils found in Atlanta.

## SOIL TYPES

The soils in Atlanta are generally red in color and, with the exception of those found in flood-plain areas, are well drained. These soils were formed from metamorphic and igneous rocks and range in texture from stony, gravelly and sandy loams to clay loams. Much of the original topsoil has been eroded away, leaving red clay subsoil exposed in some areas.

Six soil associations are found in Atlanta. They are grouped into three categories according to type, location, and use limitations:

1. Nearly level soils on bottomlands and low stream terraces:
  - Congaree-Chewacla-Wickham: Drainage is moderately good along the Chattahoochee River but somewhat poor along small streams. Relief is mostly level or nearly level, although some slopes are undulating.

These soils lie along the Chattahoochee River and along the City's larger streams and creeks. Because of the flooding hazard, the major soils in these associations have severe limitations if used for utility construction or residential, recreational, commercial or light industrial development. These areas should be limited to suitable wildlife habitat and supporting hardwood stands.

2. Gently sloping and moderately sloping soils of uplands:
  - Cecil-Floyd-Appling: Drainage ranges from good to excessive.
  - Floyd-Cecil-Madison: Deep to moderately deep soils that are well to somewhat excessively drained.
  - Appling-Cecil: Deep to moderately deep soils that are well to somewhat excessively drained.

In most areas, limitations are slight for residential and park/recreational development and moderate because of clay for commercial and light industrial development, roads and septic tank drainage fields. However, in the few areas where Louisburg soils predominate, depth to bedrock is very shallow, ranging from a few inches to three feet in depth.

3. Strongly sloping and steep soils of uplands:
  - Madison-Louisa: Well-drained to excessively drained soils.
  - Cecil-Lockhart: Soil drainage is good to excessive in most places, although it is excessive in some steep areas.

Soils in these associations are located primarily along portions of the major stream banks. Limitations are moderate for residential, park and road constructions on slopes less than 15 percent and severe for all uses on slopes 15 to 40 percent. Development in these areas is also limited by adverse soil properties.

## STEEP SLOPES

Slopes in Atlanta range from nearly level to 60 percent. The steeper slopes (greater than 15 percent) are generally located in north, southwest, and southeast quadrants of the City. Some of these areas are heavily forested or covered with other forms of protective

vegetation. Additional protection of slopes greater than 15 percent is anticipated as development pressure in the City increases.

### ***SENSITIVE PLANT AND ANIMAL HABITATS***

Rare plants, animals, and natural habitats are particularly vulnerable to the effects of development and should be recognized and protected to the extent possible. The following includes a list of sensitive plants and animals, and a brief description of their habitats.

#### ***Plants***

1. Moccasin Flower, Pink Ladyslipper
2. Golden Slipper, Yellow Ladyslipper: Primarily found in rich, moist, hardwood coves and forests.
3. Bay Star-vine; Climbing Magnolia, Weld Jarsparilla: Typically found twining over understory trees shrubs in rich, alluvial woods, and on lower slopes near streams.
4. Granite Stonecrop, Dwarf Stonecrop: Found growing among moss in partial shade under large, open-grown eastern red cedar (*Juniperus virginians*) trees on granite outcrops.
5. False Hellebore, Ozark Bunchflower: Found in moist, hardwood dominated woods, usually in small clumps on terraces along streams.
6. Piedmont Barren Strawberry: Found in rocky, acidic woods along streams with mountain laurel (*Kalmia latifolia*), also in drier, upland oak-hickory-pine woods.

#### ***Endangered Wildlife***

"Endangered" species are those in danger of extinction throughout a significant portion of its range. The federal Endangered Species Act of 1973 and Georgia's Rules offer protection for endangered species, for the Department of Natural Resources (DNR) beginning at 391-4-13.02. Four endangered species may live in the Atlanta Region:

1. The Indiana bat, a nocturnal insectivore, lives in caves in the winter and may live outside caves from April through October.
2. The red-cockaded woodpecker is endangered because it only nests in pine trees over sixty years old, which are infected with a fungus called red heart disease.
3. Peregrine falcons migrate long distances and usually live on cliffs over water, but in Atlanta they have nested on tall towers and buildings
4. Southern bald eagles usually live in inland waterways and estuaries, however they have been spotted nesting in tall trees in undisturbed Piedmont wetlands and lake shores.

## *MAJOR PARKS, RECREATION, AND CONSERVATION AREAS*

The City has approximately 3, 200 acres of parkland that represents 3.78 percent of the city's total geographic area. Atlanta parkland comprises a wide variety of natural resource areas and environmental functions. Eighty-five percent of City parks are located along streams in floodplain and wetland areas, in areas with steep and rocky topography, or in other environmentally sensitive areas. Part of the City park inventory includes four nature preserves: North Camp Creek, Cascade Springs, Daniel Johnson, and the Outdoor Activity Center. In addition to City holdings, the National Park Service operates the Chattahoochee National Recreation Area that extends from Buford Dam in Gwinnett County south to Peachtree Creek in the City of Atlanta.

## *SCENIC VIEWS AND SITES*

The City has not identified to date any scenic views or sites requiring special management.

## *PRIME AGRICULTURE AND FOREST LANDS*

Prime agricultural and forest land is generally classified as those areas whereby the soils and topography are conducive to growth. As a result of increased urbanization, neither of these land-use types can be found in any great quantity within the Atlanta City limits. The City is, however, focused on protecting urban forest areas in each quadrant of the city as a legacy for future generations.

## *HYDROLOGY AND WATERSHEDS*

The annual rainfall in Atlanta varies from thirty-two to sixty-eight inches per year with an average of forty-eight inches. Evaporation and transpiration account for approximately 30 inches of rainfall, resulting in about 18 inches annually available for streamflow and percolation to groundwater. The land is traversed with numerable streams, creeks, springs and ravines. Atlanta's geographic location is unique in several ways; it is one of the only cities to be located on a subcontinental divide and it is one of the few metropolitan areas in the United States to be over one thousand feet in elevation. DeKalb Avenue, Spring Street, and Peter Street are on the ridge line which divides Atlanta's major drainage basins, the Chattahoochee and South River (the Ocmulgee), which drain into the Gulf of Mexico and Atlantic Ocean respectively.

Atlanta's roadway network and resulting development patterns are directly shaped by its watershed topography. Atlanta is the meeting point for ten stream drainage basins, which supply two distinctly-separate River basins -- the Chattahoochee River and the Ocmulgee River. Table 11-1 provides a detailed description of the locations and components of these watersheds.

On the West and North sides of the City, the Chattahoochee River is supplied by seven stream drainage basins: Long Island Creek, Nancy Creek, Peachtree Creek, Proctor Creek, Sandy Creek, Utoy Creek, and Camp Creek basins. In the Southeast section of the City, three stream drainage basins supply the Ocmulgee River: Sugar Creek, Intrenchment Creek, and the South River.

Each stream drainage basin watershed is bounded by ridgelines and plateaus, which cradle floodplain valleys where the headwaters of several tributary creeks originate in springs. These springwaters flow into the principal creek, which finally flows through a streamway corridor and floodplain to supply the river.

From Atlanta's earliest days, the network of its major arterial roads has followed the ridgeline network bordering the river and stream basins. The relationship between Atlanta's stream basin ridgeline system and the roadway framework is shown by Table 11-1.

**Table 11-1: Atlanta Watersheds, including the Chattahoochee River Basin, the Ocmulgee River Basin, and their Tributary Streamway**

ATLANTA'S WATERSHED FRAMEWORK		
River Basin	Primary Tributary Watersheds	Primary Ridge Lines
<i>Chattahoochee</i>	Long Island Creek	<i>East:</i> Ridgewood Road and Mount. Paran Road.
	Nancy Creek	<i>West:</i> Ridgewood Road and Mount. Paran Road <i>South:</i> Moore's Mill Road and West Pace's Ferry Road, Peachtree Road.
	Peachtree Creek	<i>North:</i> Wesley Parkway, Moore's Mill Road and West Pace's Ferry Road, Peachtree Road. <i>South:</i> Chattahoochee-Ocmulgee Two-River Ridge Line, DeKalb Avenue/Forsyth Street Railroad bordering Peters Street. <i>West:</i> Northside Drive, West Marietta Street, Marietta Road, South across Southern Railway/Inman Yards, James Jackson Parkway.
	Proctor Creek	<i>North:</i> Northside Drive, West Marietta Street, Marietta Road. <i>South</i> across Inman Yards, James Jackson Parkway. <i>Southwest:</i> Martin Luther King, Jr. Drive, Gordon Road. <i>East:</i> Chattahoochee-Ocmulgee Two-River Ridge Line railroad line bordering Peters Street and Murphy Avenue. <i>West:</i> Hightower Road, Bankhead Highway, Interstate 285.
	Sandy Creek	<i>North:</i> Hightower Road, Bankhead Highway, Interstate 285. <i>South:</i> Martin Luther King, Jr. Drive, Gordon Road/
	Utoy Creek	<i>North:</i> Gordon Street, Martin Luther King, Jr. Drive, Gordon Road. <i>East:</i> Chattahoochee-Ocmulgee Two-River Ridge Line Railroad line bordering Murphy Avenue and Lee Street. <i>South:</i> Campbellton Road.
	Camp Creek	<i>North:</i> Campbellton Road. <i>East:</i> Chattahoochee-Ocmulgee Two River Ridge Line railroad line bordering Murphy Avenue and Lee Street.
<i>Ocmulgee</i>	Sugar Creek	<i>North:</i> Chattahoochee-Ocmulgee Two River Ridge Line. DeKalb Avenue, bordering the Seaboard Railway and the CSX Railway line. <i>West:</i> Flat Shoals Avenue and. Bouldercrest Drive.
	Intrenchment Creek	<i>East:</i> Flat Shoals Ave., Bouldercrest Drive <i>North:</i> Chattahoochee-Ocmulgee Two River Ridge Line. DeKalb Avenue and Forsyth Street railroad, bordering Peters Street. <i>West:</i> Whitehall Terrace, Ridge Avenue, and McDonough Boulevard.
	South River	<i>East:</i> Whitehall Terrace, Ridge Avenue, and McDonough Boulevard. <i>West:</i> Chattahoochee-Ocmulgee to Two-River Ridge Line railroad line bordering Murphy Avenue and Lee Street.

The two continental plates that comprise each river basin interface in the heart of the Central Business District (CBD). This boundary runs along a ridge line which originates east of Atlanta, travels westward to enter the City along what is now DeKalb Avenue,

crosses Woodruff Park to Forsyth Street, and then arches to the southwest, paralleling Spring Street and Peters Street.

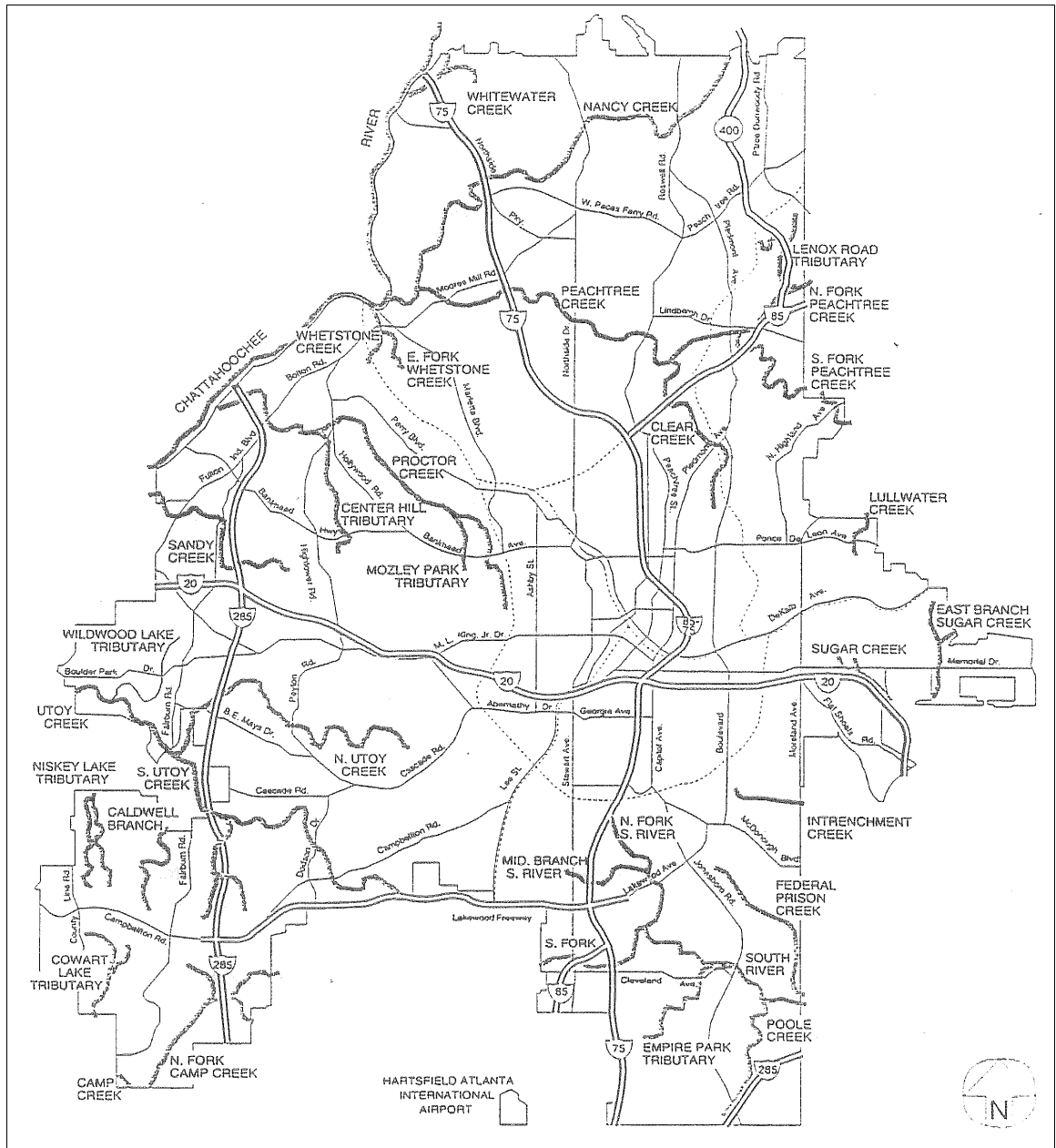
The headwaters for several creeks in the Chattahoochee River Basin and the Ocmulgee River Basin originate within a fifteen-block radius of the "Five Points" intersection.

Waters from these springs are currently routed to the storm sewer system that carries the water to the rivers via outfall pipes, which feed the creeks.

### *WATER SUPPLY WATERSHEDS*

Water supply watersheds are subject to the Department of Natural Resources' Rules for Environmental Planning Criteria. The Department of Natural Resources defines water supply watersheds as the areas of land that drain to a public drinking water supply intake. The City's public drinking water supply intake is located on the Chattahoochee River just north of Peachtree Creek and the portion of the City that falls within the boundaries of its water supply watershed is the Chattahoochee River drainage basin north of Peachtree Creek.

**Map 11-1: City of Atlanta Major Streams**



## WETLANDS

Wetlands are subject to the Department of Natural Resources' Rules for Environmental Planning Criteria. Freshwater wetlands are defined by federal law as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. According to the National Wetlands Inventory conducted by the US. Fish and Wildlife Service, wetlands within Atlanta occur generally in the areas along the Chattahoochee River and the City's major streams and creeks,

though some non-stream corridor wetlands do exist in the City. Currently, the US Fish and Wildlife Service National Wetland Inventory Maps are the best source of information available on the location of wetlands in the City.

### *GROUNDWATER RECHARGE AREAS*

Groundwater recharge areas are subject to the Department of Natural Resources' Rules for Environmental Planning Criteria. Recharge is the process by which precipitation infiltrates soil and rock to add to the volume of water stored in pores and other openings within them. Most of northern Georgia is underlain by crystalline rocks with complex geologic character and with little or no porosity within the rocks themselves. Significant recharge areas in the crystalline rock terrain of northern Georgia are found in areas that have thick soils or saprolite and relatively low (less than 8 percent) slopes. These conditions are not present in the City.

### *FLOOD PLAINS*

Flood plains serve three major purposes: (1) natural water storage and conveyance, (2) water quality maintenance, and (3) ground water recharge. The Federal Emergency Management Agency (FEMA) has identified and mapped areas in Atlanta that are prone to flooding. These maps constitute the flood hazard district maps for the City and have been incorporated into and made a part of the City's official zoning map as described in Section 16.02.004 of the City's zoning ordinance. Development in these areas is carefully monitored to protect the functional integrity of flood plains as well as the health, safety and property of the City's residents. Additional management of the 100-year floodplain is anticipated as flooding frequency increases due to watershed development.

### *PROTECTED RIVER CORRIDORS*

Protected river corridors are subject to the Department of Natural Resources' Rules for Environmental Planning Criteria. The Chattahoochee River Corridor is protected by the Metropolitan River Protection Act (MRPA), which is described later in the Natural Resources section of the CDP. The Chattahoochee River Corridor is the region's most significant natural feature. It is unrivaled in the State for historic and cultural significance and is rich in animal and plant diversity. These characteristics make reclaiming the corridor for environmental enhancement and public benefit desirable. Invasive infrastructure and plants and adverse land uses have irreparably altered the natural ecology of the corridor south of Peachtree Creek. Proposed development threatens the corridor north and south of Peachtree Creek. Several plans and initiatives by the City of Atlanta, the Region, the State, and the National Parks Service are focused on further protecting and preserving the Chattahoochee River Corridor.

### *STREAMS*

Atlanta's streams and drainageways (Map 11-1) are potentially the City's most valuable natural resources. Unfortunately, the City's streams suffer from litter, pollution, and hydrologic impacts due to stormwater runoff from impervious surfaces. Several efforts are underway to reclaim and protect Atlanta's streams and watersheds including the



Metro Atlanta Urban Watershed Initiative (MAUWI) and the Greenway Acquisition Project, both described later in the Natural Resources section of the CDP.

### *AIR QUALITY*

Air quality within the Atlanta metropolitan area does not meet federal standards for hydrocarbons and photochemical emissions. Within the City, the primary source of emissions is automobile exhaust. The U.S. Environmental Protection Agency (EPA) classifies the City, and the entire metropolitan Atlanta region, as having a non-attainment status for ozone.

### **ANTICIPATED FUTURE CONDITIONS**

New environmental priorities are currently being developed, and over the next few years will begin to change our approach to all aspects of planning. Part of the new approach is that natural resources protection, growth and development can be mutually supportive. Protection of environmental systems is sound economic practice, which will increase commercial property values and create a better quality of life for residents. Natural resources can attract corporations and investment as well as visitors and tourists. Growth and development policies will reflect the need to protect and enhance our natural resources.

### *ENVIRONMENTALLY SENSITIVE AND ECOLOGICALLY SIGNIFICANT AREAS*

The natural environment encompasses many areas and resources which are vulnerable to the impacts of development and which require protection by the community. As the City and its surrounding areas continue to grow, the conservation of environmentally sensitive and ecologically significant resources will become increasingly important.

### *OPEN SPACE CONSERVATION*

Several initiatives are underway to increase protected open space in the City. These include the Georgia Greenspace Program and the Greenway Acquisition Program. Other strategies include strengthening legislation, policing, and enforcement citywide.

### *WILDLIFE MANAGEMENT*

Development and prior agricultural use have interrupted Atlanta's natural wildlife corridors and destroyed most of the old-growth forests that many animal species need in order to survive. Less desirable species, such as rodents and pigeons, are adaptable to stressful urban environments and have replaced many of the natural species that are found in the Piedmont plateau geographic region. Without measures to encourage diversity of wildlife, the City's wildlife will continue to be displaced.

## *ENVIRONMENTAL EDUCATION*

Public educational programs to address environmental issues, health and safety consequences, and viable solutions are necessary to ensure the participation and support of all citizens in environmental protection and quality. City parks are valuable environmental classrooms, providing firsthand examples of sensitive environmental areas and the effects of poor upstream environmental practices and land maintenance practices that encourage erosion and reduction of a variety of animal species. Educational facilities and programs could include educational signage along pathways, demonstration projects, stream monitoring projects and joint classes with the Atlanta Public Schools.

## *STORMWATER DAMAGE*

Over the past ten years, the size of floodplain areas has been increasing. This is a result of increased storm water runoff from developed areas into culverts and streams. The result has been considerable property damage. The effect on parks, for example, has included severe stream bank erosion, loss of land and vegetation, and damage to ball courts and other facilities. The combination of volume and velocity of stormwater runoff from impervious surfaces in watersheds throughout the City, in conjunction with intense rainstorms, has caused severe erosion of streambanks in many neighborhoods. Loss of property, trees and soil are commonplace. Destruction of stream banks is both economically and ecologically damaging, and expensive to restore. Although there has been some success in stabilizing stream banks with vegetative and structural techniques, the only permanent solution to this costly problem is to reduce stormwater runoff from impervious surfaces citywide and regionally in concert with more vigorous protection of natural floodplains. Requiring stormwater to be retained in ponds or vaults either on-site or regionally, and installing infiltration areas in developments are several policy options that the City should investigate. The City plans to implement a stormwater management utility in 2004 to alleviate many of these issues.

## *STORMWATER POLLUTION*

Pollution of the City's streams and creeks is most frequently caused by non-point source pollution, such as fertilizer residue from lawns and parking lot and road oil that is washed into streams during a rainstorm. Point source discharges, such as the illegal dumping of hazardous or toxic materials into culverts or directly into streams is also occurring.

Pollution of surface water is a critical health and safety problem, particularly in City parks or near schools, where streams often attract young children. Loss in the diversity of wildlife and aquatic species due to contaminated and sediment-filled creeks and streams is a major environmental challenge for the City, and other local governments. Education, policing and enforcement of existing regulations as well as the development of new regulations are needed to prevent these sources of stream pollution.

## *STREAM COURSEWAYS ALTERATION*

Under current City ordinances, alterations of stream courseways are generally not allowed. In dense development areas it is sometimes necessary to straighten a stream, however, this practice interrupts the natural desired movement of the stream and may result in higher stream velocity.

## ***URBAN FOREST***

The City needs to commit to implementation of an urban forestry program. The Bureau of Parks' forestry division has very limited resources to address the escalating problem of urban forest depletion. Trees in sidewalk planters have an average life span of only fifteen years, and even trees in park areas require special attention for the first three years.

## **CURRENT POLICIES**

Environmental policies are directed at improving the City's stewardship of its unique, fragile environmental resources. Atlanta's goal is to respect these assets when creating policies for future development.

## ***SOIL EROSION***

The City of Atlanta Erosion and Sedimentation Control Ordinance (Chapter 74, Article II of the City Code) provides legal authority to enforce soil erosion and sediment control measures for land-disturbing activities that apply to all features of a particular site, including street and utility installations, drainage facilities and other temporary and permanent improvements. The City's ordinance also includes the statewide requirement that at least twenty-five feet along stream banks remain as undisturbed vegetation. Additionally, the City requires a seventy-five foot buffer protection along perennial and intermittent streams. These provisions reduce the sediment load in area creeks and rivers.

## ***WATER SUPPLY WATERSHEDS***

Water Supply Watersheds in Atlanta are protected by the ordinance currently contained in Appendix B of the CDP. The ordinance regulates uses within a seven-mile radius up stream of any public drinking water supply intake, which would handle hazardous materials. Requirements include siting such uses on an impervious surface and having a spill and leak collection system.

## ***THE CHATTAHOOCHEE RIVER AND THE METROPOLITAN RIVER PROTECTION ACT (MRPA)***

The provisions of the Metropolitan River Protection Act protect the length of the Chattahoochee River within Atlanta City Limits. The law as applied to the Atlanta Region establishes a river protection corridor two thousand feet from either bank of the river below Buford Dam in Gwinnett County to the southern boundary of Fulton County. Development standards within the corridor include a fifty-foot natural vegetative buffer, a 150-foot impervious surface setback along the bank of the Chattahoochee River, and a thirty-five-foot natural vegetative buffer on both banks of all flowing tributary streams in the Corridor. The MRPA also requires that local governments adopt tributary buffer ordinances for streams outside the 2000-foot River Corridor that drain into the Chattahoochee River.

This requirement is satisfied by the City of Atlanta Riparian Buffer Ordinance (Chapter 79, Article VII of the City Code). Other MRPA provisions are contained in the Zoning Code.

### *METRO ATLANTA URBAN WATERSHED INITIATIVE (MAUWI)*

The overall goal of MAUWI, a joint initiative by the City of Atlanta, Fulton County, and DeKalb County, was to determine the current conditions and uses of Atlanta's urban streams, assess the size and impacts of the different pollution sources, and evaluate options for improving water quality. The outcome of MAUWI was the MAUWI Watershed Management Guidance Document, which established a vision and goals intended to guide the City and community groups in the care and development of the City's watersheds.

The MAUWI Vision is "Healthy and aesthetically appealing streams for ourselves, our children, and our downstream neighbors, with a diverse and healthy aquatic life and habitat, supported by an educated and involved citizenry, government, and business community, and a future for flood-free neighborhoods."

The goals established by MAUWI are as follows:

- Reduce litter in streams
- Meet water quality standards in streams
- Improve water quality in streams
- Improve stream habitat
- Implement cost-effective strategies
- Reduce flooding of human structures
- Increase health and diversity of aquatic life
- Increase citizen, government, and business awareness of watershed pollution

### *WETLANDS*

Atlanta complies with the federal wetlands program under Section 404 of the Clean Water Act in order to maintain and protect these natural resources. Developers are responsible for requesting a determination of jurisdiction for any project that would result in altering over one acre of wetlands as required by the Clean Water Act. Atlanta does not allow land-disturbing activity within delineated wetlands jurisdictions except as restricted by a permit issued by the U.S. Army Corps of Engineers.

The Georgia Department of Community Affairs has recommended a set of regulations to be included in the Comprehensive Development Plan (CDP) that would protect the City's wetlands in providing for the health, safety and welfare of its citizens. Towards this end, the City has adopted a wetland protection ordinance, which is included in Appendix B of the CDP. This Ordinance requires coordination between the City and Corps permitting processes.

## *AIR QUALITY*

The State of Georgia and the Atlanta Region is governed by a SIP or State Implementation Plan, to attain air quality standards in accordance with the Federal Clean Air Act. Automobiles are restricted by the SIP. The City has been involved with the State Clean Air Campaign since 1998 and has achieved the highest level of recognition as part of the program. In addition, the City implemented an idling ordinance in April 2003 which limits the amount of vehicular idling to fifteen consecutive minutes.

## *PROTECTION AND CONSERVATION OF THE CITY'S NATURAL RESOURCES*

1. Include the protection of unique and sensitive natural resources in neighborhood open space framework plan.
2. Support and promote opportunities for establishing conservation easements as authorized in the City of Atlanta Tree Ordinance.
3. Develop and implement an inventory, to include geographical informational system (GIS) data, of Atlanta's natural resources, in coordination with local, state, regional and federal agencies.
4. Identify priority natural resources and methods to protect and enhance natural resources.
5. Create a protected greenway along the Chattahoochee River from the northern city limits at the National Park Service Recreational Area to southern city limits at the Fulton County Airport.
6. Evaluate the use of performance standards in the city-zoning ordinance to address impacts of commercial and industrial uses on the environment.
7. Optimize educational opportunities related to natural resources protection.
8. Preserve and enhance the City's environmental resources through the implementation of the Parks, Open Space, and Greenways Plan.
9. Permit development based upon the carrying capacity of available infrastructure and the natural environment.
10. Integrate natural resource conservation and greenspace creation into the planning for and siting of City facilities.
11. Promote the permanent protection of greenspace constituting at least 20% of the City's geographic area for informal recreation and natural resource protection, in accordance with the Georgia Greenspace Program.

12. Establish consistent and coordinated environmental criteria for interdepartmental use for construction during all development, economic and facilities plans, land use policies and codes.
13. Encourage and support all citizen participation and environmental education programs.
14. Ensure that all development within the City complies with applicable State and Federal Environmental Policies.

#### *PROTECTION AND ENHANCEMENT OF THE CITY'S PARK LANDS*

1. Restrict development of wetlands to boardwalks, informational signage and other recreational and educational elements that protect and preserve the resource.
2. Restrict development of floodplains to pathways, picnic areas, ball fields, golf courses and other appropriate recreational elements that protect and preserve the resource.
3. Limit the use of maintenance chemicals that pollute water, air and wildlife habitats.
4. Create a position in the Bureau of Parks, Forestry Division that will be responsible for protection and maintenance of City stream banks and major riparian corridors located in parks and other public lands, and to provide technical assistance for protection of all riparian corridors.
5. Investigate the feasibility and need for the use of greywater to irrigate recreational facilities such as ball fields and golf courses.

#### *PROTECTION AND ENHANCEMENT OF THE FUNCTION AND INTEGRITY OF THE CITY'S FLOOD PLAINS*

1. Assist in and support the metropolitan watershed management guidelines as developed by the Atlanta Regional Commission – Metropolitan North Georgia Water Planning District in conjunction with all participating local governments.
2. Revise development standards to prevent the alteration of the size or shape of natural flood plains.
3. Adopt City regulations that prohibit alterations of the natural stream courses according to professional engineering recommendations.
4. Adopt City regulations that prohibit development of impervious surfaces in flood plains.
5. Adopt City regulations for citywide stormwater retention facilities in all new developments, including parking lots and other paved areas, in order to reduce flooding of combined sewers, streets, homes, and erosion of stream banks.

6. Preserve, enhance, and expand the undeveloped flood plain along the Chattahoochee River as public open space.

#### *PROTECTION AND PRESERVATION OF THE CITY'S WETLANDS*

1. Continue to comply with the Federal wetlands program under section 404 of the Clean Water Act.
2. Strengthen protection of wetland areas.
3. Identify significant wetland resources, both on public and private land.

#### *ACHIEVEMENT OF WATER QUALITY STANDARDS IN CITY STREAMS AND CREEKS AS OUTLINED BY THE GEORGIA ENVIRONMENTAL PROTECTION DIVISION*

1. Support and enforce the City's Erosion and Sedimentation ordinance.
2. Continue to support the Citizen Stream Monitoring Program for education and training programs to monitor, report, and prevent stormwater runoff pollution and other sources of stream pollution.
3. Produce stream monitoring data profiles and watershed surveys on designated streams in the Citizen Stream Monitoring Program.
4. Develop mechanism for handling calls and acting on citizen reports of pollution sources of streams and creeks.
5. Implement the long-term watershed monitoring program in coordination with the United States Geological Survey.

#### *PROTECTION, ENHANCEMENT OF TREES IN THE CITY'S URBAN FOREST*

1. Provide adequate City resources for the management of the urban forest.
2. Provide adequate City resources for the enforcement and implementation of the City of Atlanta Tree Ordinance.
3. Implement and enforce the parking lot landscape ordinance.
4. Implement and enforce the City of Atlanta Tree Ordinance.
5. Implement an up-to-date computerized tree maintenance program for parks and public rights-of-ways.
6. Develop an urban forest management plan for the City including planting, maintenance, protection, promotion, and staffing levels.
7. Expand the Bureau of Parks Forestry Division staff to implement and promote the urban forest management plan.

8. Update the existing Arboricultural Specifications and Standards of Practice.
9. Develop a citywide streetscape master plan, including tree planting details and prioritized streetscape projects.
10. Develop citywide streetscape specifications and standards as part of the above master plan.

#### ***PROTECTION AND ENHANCEMENT OF WILDLIFE AND NATIVE PLANT HABITATS***

1. Identify and protect adequate natural wildlife habitats and corridors.
2. Identify and protect endangered, rare and native plant habitats.

#### ***GEORGIA GREENSPACE PROGRAM GOALS***

The goal of the City of Atlanta for the Georgia Greenspace Program is to permanently protect at least 20 percent of the city's geographic area as open greenspace that can be used for informal recreation and natural resource protection. In an effort to meet the City's 20 percent open greenspace goal, permanent protection will be sought on land types including Floodplains and Wetlands, Urban Forest Tracts, Greenways, Existing Nature Preserves, Other Existing Passive Parks, New Park Land, and Vacant/Undeveloped Land.

Goals identified under the Georgia Greenspace Program are as follows:

Where feasible:

- Obtain conservation easements on newly acquired open space properties.
- Revise the Comprehensive Development Plan where appropriate to provide policies for 1) showing open space protected by ordinance (such as floodplains and wetlands) on the Existing and Future Land Use Maps and 2) creating an "open space" zoning classification, that will also apply to those lands protected by ordinance.
- Encourage donation of conservation easements on lands where development is restricted by existing ordinances.
- Adopt amendments to strengthen existing tools such as more stringent floodplain protection.
- Adopt a stream buffer ordinance to include protection of hydric soils, floodplain, and stream corridor wetlands.
- Adopt an ordinance to prevent development on steep slopes.
- Updated Parks Open Space and Greenways Plan to include conservation/acquisition strategy and identification of sensitive lands to be protected.
- Obtain conservation easements on public properties including City parks.
- Obtain conservation easements on greenways along streams under the City of Atlanta Greenway Acquisition Program.
- Create open space mitigation banks.
- Create mechanism for accepting and maintaining open space lands and conservation easements.



- Develop appropriate incentives for the protection of open space.
- Amend development codes to both reduce variances to open space requirements and increase opportunities to provide open space through development.
- Integrate permanently protected open space and permanent stormwater BMPs.
- Determine feasibility of creating an open space zoning classification in conjunction with a policy to calculate densities based upon “buildable area”.
- Require open space set-a-sides as a condition for development projects receiving City funding.
- Require mitigation for variances from open space requirements.

#### ***ACHIEVEMENT OF AIR QUALITY STANDARDS AS DEFINED BY THE FEDERAL CLEAN AIR ACT AND STATE AIR QUALITY REGULATIONS***

1. Continue to support all programs and projects, at the state, local and regional level, which reduce air pollutants from stationary and non-stationary sources.
2. Enhance the Smog Free Georgia Program in conjunction with the Clean Air campaign.

#### ***ENERGY***

1. Develop Sustainability Policy.
2. Create Green Building Code and Encourage Green Buildings.
3. Promote the use of solar and other renewable energy sources as a means of promoting sustainable development.

### **CURRENT PROGRAMS AND PROJECTS**

#### ***COMMUNITY WATERSHED ORGANIZATIONS***

Several community watershed groups have formed in the City whose mission is to preserve and protect the integrity of the City’s streams. Currently, the City works with these groups on an informal basis.

#### ***CITIZEN STREAM MONITORING PROGRAM***

The Georgia Environmental Protection Division (EPD) has provided the City with start-up grants for the purpose of initiating a citizen' education and awareness program for the prevention of non-point source pollution of our streams and creeks. Citizens learn to identify and report water pollution problems, and collect data on the stream they are monitoring. The City is providing training, educational materials and assistance in initiating stream-monitoring programs throughout the City.

#### ***CHATTAHOOCHEE RIVER PROJECT***

The Chattahoochee River Project is an effort to establish a river greenway park along the entire Chattahoochee River Corridor in the City of Atlanta. The purpose of the project is to reclaim the Chattahoochee River corridor and conserve it as a sustainable resource.

## *REVISED TREE ORDINANCE*

The City has recently adopted revisions to its Tree Ordinance. Protection of the urban forest, street trees and landscape buffers to reduce stormwater runoff from impervious surfaces are key elements of the new tree ordinance.

## *THE ATLANTA ENVIRONMENTAL PRIORITIES PROJECT*

The City has initiated, with a start-up grant from the U.S. Environmental Protection Agency (EPA), an inventory, analysis and ranking of its environmental issues. The inventory will include terrestrial and riparian systems, water resources, surface water quality, air quality and land quality.

## *ATLANTA PARKS, OPEN SPACE, AND GREENWAYS PLAN*

The Atlanta Parks, Open Space, and Greenways Plan was adopted in December 1993. This plan proposes establishing a citywide system of interconnected greenways along streams, parks, MARTA rights-of-way, abandoned railroad corridors, the Chattahoochee River and other linear corridors. The most current Greenway Trail Corridor map is contained in the Parks and Recreation section of the CDP. Greenways will be used for recreation, education, and natural resource protection. The plan also recommends a number of policies and projects for addressing environmental problems in parks citywide.

## *GREENWAY ACQUISITION PROJECT*

Under a Supplemental Environmental Program established by a federal consent decree, The City of Atlanta will invest \$25 million in the purchase of property along selected portions of streams in Metro Atlanta that flow into the Chattahoochee and South Rivers. The program is intended to improve water quality in Metro Atlanta streams and the Chattahoochee and South Rivers. The land will be converted to and/or preserved as “greenways”, undeveloped and undisturbed corridors along stream banks that serve as natural filters to trap sediment and other pollutants carried by stormwater before they reach the streams. The natural vegetation of greenways provides wildlife habitats and offer opportunities for passive recreation.

## *URBAN HEAT ISLAND REDUCTION*

Since 1973, the metropolitan Atlanta area has been experiencing unprecedented urbanization growth and loss of greenspace at an alarming rate. Impervious cover has become a function of contemporary land uses, and the changes in land use/cover have dramatically contributed to a degradation of air and water quality as well as overburdening of our stormwater systems. As a result of new land use practices, Atlanta has also developed over-stressed sewer systems with urgent erosion, sedimentation, and stormwater management problems. In 1999, it was reported that metro Atlanta is now the fastest growing metro region in the country, with smallest river in the country, the Chattahoochee River, serving as the primary water source for a major metropolitan area. This phenomenon of higher urban temperatures, the degradation of air and water quality, overflows to our sewer systems, and loss of greenspace can be mitigated by designing greenroofs on our cities’ roofs, and integrating greenroof architecture into the fabric of our city infrastructure systems. The City of Atlanta will be developing a pilot greenroof project at City Hall downtown for demonstration purposes. In addition, the City will be

seeking other environmentally sensitive roofs on city owned facilities for initiatives such as solar power, reflective coatings, and greenroofs.

#### WATER REUSE PROGRAM

According to EPA, water recycling has proven to be effective and successful in creating a new and reliable water supply, while not compromising public health. Non-potable (not for drinking purposes) reuse is a widely accepted practice. However, in many parts of the United States, the uses of recycled water are expanding in order to accommodate the needs of the environment and growing water supply demands. Advances in wastewater treatment technology and health studies of indirect potable reuse have led many to predict that planned indirect potable reuse will soon become more common. The City of Atlanta's Water Recycling project will supply treated wastewater effluent from the South River Water Reclamation Center of a city owned golf course for the purpose of irrigation. In the future, the City will be identifying other potential users of treated effluent.

## 2004 CDP NATURAL RESOURCES NEW PROGRAMS AND PROJECTS

**Project List 11-1: 2004 CDP Natural Resources Current Programs and Projects**

Natural Resources	Project Description	Initiation Year 1 5 15	Completion Year	Cost x 1,000	Funding Source	Responsible Party	CIP #	NPU	CD
1	Develop, Adopt and Implement a Greenspace Acquisition/Protection Plan including a Natural Resource Protection Plan	1	2002			DPCD		All	All
2	Develop and adopt an environmental or conservation subdivision code	1	2004			DPCD, DPW, DWM		All	All
3	Revise water supply watershed ordinance	1	2004			DPCD, DWM		All	All
4	Urban Forest Inventory and Protection Strategy	1	2002			DPCD, DWM		All	All
5	Investigate TDR to protect natural resources	5	2005			DPCD		F	6
6	Enhance Open Space Code Requirements	1	2002			DPCD		All	All
7	Stream Restoration Projects	1	2020			DWM		All	All
8	Revise the City's Stormwater Ordinance regarding BMPs and impervious surface limits	1	2004			DPCD, DWM		All	All
9	Inventory and appropriately Protect Existing Public Open Space	1	2010			DPCD		All	All
10	Erosion and Sedimentation Ordinance updates	1	2004			DWM		All	All
11	City of Atlanta Greenspace Conservation Program	1	2020			DPCD, DPRCA		All	All
12	Urban Forestry Program	1	2020			DPRCA		All	All
13	Urban Heat Island Reduction Program	1	2020			DPCD, DWM, DPRCA		All	All
14	Water Reuse Program	1	2020			DWM		All	All

**Project List 11-2: 2004 CDP Natural Resources New Programs and Projects**

Natural Resources	Project Description	Initiation Year	Completion Year	Cost X 1000	Funding Source	Responsible Party	CIP#	NPU	CD
		1 5 15							

**Project List 11-3: 2004 CDP Natural Resources Completed Programs and Projects**

Natural Resources	Project Description	Initiation Year	Completion Year	Cost X 1000	Funding Source	Responsible Party	CIP#	NPU	CD
1	Develop and Adopt Tributary Ordinance								
3	Revise wetland ordinance	1	2002			DPCD, DWM		All	All
5	Enhance Floodplain Ordinance (impervious surface requirements)	1	2002			DPCD, DWM		All	All
11	Amend Tree Ordinance	1	2002			DPCD		All	All
9	Map environmental features and Natural Resources	1	2002			DPCD, DWM		All	All

**Project List 11-4: 2004 CDP Natural Resources Deleted Programs and Projects**

Natural Resources	Project Description	Initiation Year	Completion Year	Cost X 1000	Funding Source	Responsible Party	CI P#	NPU	CD
7	Protect and Restore Buffers along all City Streams and Rivers	15	2020			DPCD, DWM		All	All
12	Inventory T&E Species and develop Protection Plan	1	2002			DPCD		All	All
13	Protect urban Lakes and Ponds	1	2020			DPCD/DWM/DPRCA		All	All
15	Inventory Fisheries and Habitats and develop Protection/Enhancement Plan	1	2003			DPCD		All	All